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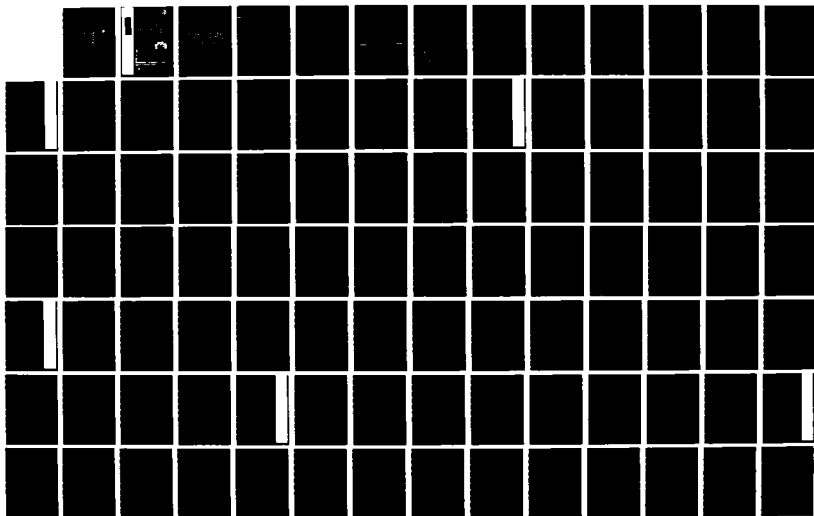
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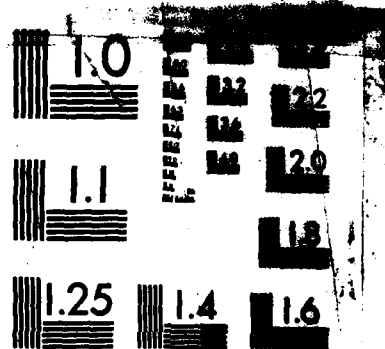
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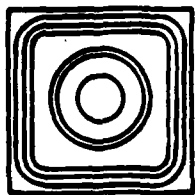
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Technical Reliability Studies

SEARCH and RETRIEVAL INDEX to EOS/ESD SYMPOSIUM PROCEEDINGS

1979 to 1984

Spring 85

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Under Contract To:

Rome Air Development Center
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<p>►This book contains indexes used in searching for information contained in papers produced in Electrical Overstress/Electrostatic Discharge (EOS/ESD) Symposium 1979 to 1984. These indexes are the Alphabetical List of Index Terms, Subject Index, Author Index, Corporate Index, Keywords in Title Index, and Chronological List of Papers Index. These indexes provide a clear, easy-to-read, and concise method of searching for and retrieving the valuable information contained in IRPS Proceedings.</p>					
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PREFACE

The Reliability Analysis Center is pleased to publish TRS-4, "The Search and Retrieval Index to EOS/ESD Symposium Proceedings From 1979 to 1984." TRS-4 provides quick and efficient access to EOS/ESD-related references.

The EOS/ESD Index makes more accessible present information on failure mechanisms, failure causes, and potential technology problems from electrical overstress/electrostatic discharge. The information from the documents in the Proceedings provides recommendations for circumventing or mitigating potential EOS/ESD problems and also provides references to evaluation and qualification testing. Increased information retrieval capability given by this index avoids duplication of previous studies and unreliable processes.

R. Wanner developed the software support programs, with input assistance from J. Race. D. Rash provided organization, coordination and control of processes under the supervision of W. Turkowski. W. Crowell defined extra EOS/ESD index terms for inclusion into this document. The entire RAC technical staff participated in the indexing of the documents contained in the EOS/ESD Symposium Proceedings.

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1.0 INTRODUCTION

The RAC developed "The Search and Retrieval Index to EOS/ESD Symposium Proceedings From 1979 to 1984" to provide ready access to current information on EOS/ESD-related topics.

Containing indexes plus users' guide material, this document serves as a reference to aid in the utilization of information concerning all aspects of electrical overstress/electrostatic discharge as presented in the EOS/ESD Symposium Proceedings. This structured index provides a quick and efficient access to references for a given topic. The increased information retrieval capability provided by this index prevents duplication of previous efforts and will help avoid the use of unreliable processes.

The EOS/ESD Symposium Proceedings are available from IIT Research Institute. Orders for EOS/ESD Symposium Proceedings should be directed to: Charles A. Cox, IITRI/Reliability Analysis Center, RADC/RAC, Griffiss Air Force Base, NY 13441-5700. To determine price and availability call (315) 330-4151, Autovon 587-4151.

2.0 IMPLEMENTATION

These indexes were composed by IITRI's Plexus P/60 computer using the UNIX Operating System. The manuscript was printed out on an Anderson Jacobson (Model AJ832) terminal.

3.0 INDEXING RATIONALE

For each paper in the Proceedings, two engineers with relevant expertise in that subject were assigned to independently read and index that article. The terms for these indexes were selected from a list of preselected index terms. The engineers' instructions included selecting those index terms for which the article had relevant information. To maintain flexibility in the index term list, periodic reviews and evaluations add new index terms.

4.0 ARRANGEMENT

This publication is arranged in six selections:

- (1) Alphabetical Listing of Index Terms
- (2) Subject Index
- (3) Author Index
- (4) Corporate Index
- (5) Keyword in Title Index
- (6) Chronological Paper Index

Each entry in each index uses the document accession number for location purposes in the RAC library. The document accession number also provides for traceability purposes to access abstracts which are not computerized.

The Alphabetical List of Index Terms, a 5-page list of terms without citations, serves as a lookup table for the subject index, which it precedes. The alphabetical list of terms identifies the category under which the index term appears by listing first the index term, then the categories for each index term, and then the number of documents for that index term within the category.

<u>Index Term</u>	<u>Categories</u>	<u>Documents</u>
Reliability	Design Considerations Semiconductor Technology	2
Reliability	Systems	5

This format allows the index term to remain generic while the categories narrow the focus to a single area of interest for the Subject Index. Using the Subject Index necessitates scanning these tables first to provide the following useful benefits: the researcher develops a search

strategy by (1) relevant association of subjects contained in the Alphabetical List of Terms with items of interest, (2) minimizing the likelihood of overlooking a highly relevant citation, and (3) constructing a source availability within the EOSs by the number of documents dealing with the item of interest.

The Subject Index alphabetically lists index terms from Section I with citations. The index terms and categories remain in this section except the categories follow the index term on the same line in brackets.

INDEX TERM - CATEGORY

DOCUMENT - SEQUENCE NUMBER	TITLE	YEAR	PAGE
Reliability	[Design Considerations, Semiconductor Technology]		
18214- 5	Latent ESD Failures	82	[41-48]

The citations include the RAC document accession number, the title of the paper and the paper number. Including the title provides a possibility for selecting the most conveniently appropriate papers and eliminating those not applicable without the necessity of looking up more information elsewhere. Skillful use of this index can lead to deeper insight into EOS/ESD phenomena and perhaps new discoveries from the cross-pollination of related studies.

The Author Index alphabetically lists authors cited in the EOS/ESD Proceedings, whether principal or secondary. For each paper up to three authors were identified as they appeared on the paper.

The Corporate Index alphabetically lists corporations, companies, institutions, and government agencies with whom the authors were affiliated at the time the papers were prepared. Citations in the index include paper number and title. For each paper only the first company that appeared on the paper was cited.

The Keyword in Title Index alphabetically lists selected keywords in the title of the paper. Citations include paper number and title. The use of this index locates papers for which the keyword is a principal topic.

The Chronological List of Papers lists by page and document accession numbers the last paper of the 1984 Proceedings first, then the following papers in descending numerical order until the first paper in the 1979 Proceedings appears as the last entry. Following each document accession number appears the title of the paper, pages, author(s), their corporate affiliation, and an alphabetical list of all the index terms applied to the particular paper. When an index of another section cites a paper, a profile of the paper's content can be deduced from the index terms appearing within the chronological paper list. The categories of the index terms remain the same, except for occasional abbreviations.

.0 SEARCH EXAMPLE

The following example illustrates the use of Section I, Alphabetical List of Terms, and Section II, Subject Index:

Suppose we are interested in studying EOS Models. The possible terms for finding applicable citations, we decide, would be "Models," "Modeling," and "Mathematical Models." Scanning Section I for these terms we find the following terms listed by relevant association:

Reliability Modeling Techniques
Models/Theory/Equations
Mathematical Analysis

When these terms are looked up in the Subject Index (Section II) the following citations are accepted for study:

79	126-132	82	56-61
79	133-139	82	62-70
81	132-138	82	76-81
82	19-33	84	136-143

By examining the index terms of the above list of papers as they appear in Section 6, Chronological List of Papers, an additional number of apparently applicable terms could be selected to obtain additional citations for further related study.

6.0 CONCLUSION

The Reliability Analysis Center published this document to provide a faster and more efficient method of searching for valuable information contained in the EOS/ESD Proceedings. The Reliability Analysis Center intended with this document, as with previous publications, to maintain up-to-date information on electrical overstress/electrostatic discharge implications for advanced technologies and to provide a knowledge base necessary to control EOS/ESD.

EOS/ESD SYMPOSIUM INDEX

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12-25	USING SCR'S AS TRANSIENT PROTECTION STRUCTURES IN INTEGRATED CIRCUITS	83	[177-180]
12-26	A SUMMARY OF MOST EFFECTIVE ELECTROSTATIC DISCHARGE PROTECTION CIRCUITS FOR MOS MEMORIES AND THEIR OBSERVED FAILURE MODES	83	[181-184]
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<u>AUTHOR(S)</u> : MADZY,T.M. PRICE,L.A. <u>COMPANY</u> : IBM CORPORATION		
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AUTHOR(S) : MC MAHON,E.J. BHAR,T.N. OISHI,T.
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AUTHOR(S) : DERMARDEROSIAN,A. RIDEOUT,L.
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AUTHOR(S) : HALPERIN,S.A.
 COMPANY : ANALYTICAL CHEMICAL LABORATORY

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